

Distribution of vitamin A during national immunization days

A "generic" addendum to the *Field guide for supplementary activities aimed at achieving polio eradication, 1996 revision*



DEPARTMENT OF VACCINES AND OTHER BIOLOGICALS
and
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Abbreviations

CIDA	Canadian International Development Agency
EPI	Expanded Programme on Immunization
ICC	Inter-agency Coordinating Committee
IMR	infant mortality rate
IU	international units
IVACG	International Vitamin A Consultative Group
MI	Micronutrient Initiative
MOH	Ministry of Health
NIDs	National Immunization Days
OPV	oral polio vaccine
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
U5MR	under-five mortality rate
VAD	vitamin A deficiency
VVM	vaccine vial monitor
WHO	World Health Organization

About this document

This document is for committees and coordinators of polio National Immunization Days (NIDs) at all levels. It provides technical information on the distribution of vitamin A during NIDs*. The information is consistent with current WHO/UNICEF/IVACG recommendations and is based on the experience of NIDs teams who have completed at least one round of vitamin A distribution during NIDs in 1996, 1997, and 1998. The document is also available in electronic form (in Word for Windows 7, see page ii for information) to allow countries to adapt it easily to meet local needs.

For more information please refer to:

1. *Field guide for supplementary activities aimed at achieving polio eradication, 1996 Revision*. Geneva, World Health Organization 1996 (unpublished document WHO/EPI/GEN/95.01 Rev.1; available on request from the Department of Vaccines and Other Biologicals, World Health Organization, 1211 Geneva 27, Switzerland).
2. WHO/UNICEF/IVACG Task Force. *Vitamin A supplements - A guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia*. Second edition. World Health Organization, Geneva, 1997.
3. *Vitamin A Global Initiative: A Strategy for Acceleration of Progress in Combating Vitamin A Deficiency*. Consensus of an Informal Technical Consultation convened by UNICEF, in association with the Micronutrient Initiative, WHO, CIDA and USAID. December 1997.
4. *Integration of vitamin A supplementation with immunization: policy and programme implications: Report of a meeting, 12-13 January 1998*, UNICEF, New York. Geneva, World Health Organization 1998 (unpublished document WHO/EPI/GEN/98.07; available on request from the Department of Vaccines and Other Biologicals, World Health Organization, 1211 Geneva 27, Switzerland).

* Throughout this document, reference is made to national immunization days (NIDs) for polio. Many of the basic concepts apply to other types of immunization campaigns. However, some specific information will need to be adapted if this material is used for other campaigns. For example, calculations of vitamin A supply needs and vitamin A coverage results that are based on the polio target population will need to be altered for other interventions. While this document deals with linking vitamin A to immunization services, it is important that national nutrition programmes be consulted and included in all planning activities from the very earliest moment.

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5. *Policy and Operational Questions Relating to Vitamin A and EPI/NIDs. Joint UNICEF/WHO Statement.* Geneva, World Health Organization July 28, 1998. (unpublished document).
 6. Using National Immunization Days to Deliver Vitamin A. *EPI Update 33* Geneva, World Health Organization 1998 (unpublished document; available on request from the Department of Vaccines and Other Biologicals, World Health Organization, 1211 Geneva 27, Switzerland).

Introduction

1. What do we know about vitamin A deficiency?

It has long been known that vitamin A deficiency (VAD) is the main cause of preventable blindness in children. We now also know that vitamin A plays an important role in strengthening the body's resistance to infection, and that children who are vitamin A deficient suffer an increased risk of death and illness, particularly measles and diarrhoea. Studies have shown that improving the vitamin A status of deficient children aged 6-59 months dramatically increases their chances of survival by:

- Reducing all-cause mortality by 23%;
- Reducing measles mortality by 50%;
- Reducing diarrhoeal disease mortality by 33%.

The elimination of VAD as a public health problem and all its consequences, including blindness, was adopted as a goal for the year 2000 by the World Summit for Children in 1990. A large number of countries are categorized by the World Health Organization (WHO) as having a significant VAD problem. While there has been progress in many countries, efforts to accelerate action are urgently needed to save lives, prevent blindness and meet the year 2000 goal.

In areas where VAD is a problem, indicators such as infant and under five year old child mortality rates and measles case fatality rates may be high. In these areas, vitamin A supplements can improve child health and save health care costs. Giving vitamin A supplements where they are needed is one of the most cost-effective health interventions for reducing infant and child mortality.

2. How can vitamin A deficiency be prevented?

VAD results from a depletion of body stores because either too little vitamin A is present in foods, or too little vitamin A is being absorbed from foods. VAD can also result from rapid utilization of vitamin A. Stores of vitamin A are used up during illnesses (particularly measles, diarrhoea, and fevers), in pregnancy and lactation, and by growth in young children. Those between the ages of 6 and 59 months experience more serious effects of VAD than other age groups.

Vitamin A status can be maintained by eating enough vitamin A-rich foods. These include breast milk, liver, eggs, meat, fish with liver intact, milk/cheese, and other dairy products, yellow and orange fruits (e.g., mangoes, papayas) and vegetables

(e.g., pumpkins, carrots), red palm oil, and dark green leafy vegetables. Synthetic vitamin A can be added during the processing of staple foods such as sugar, vegetable oil, and wheat flour. This is called *food fortification*. Another way to make sure that children and women get enough vitamin A is to give them vitamin A drops by mouth. This is called *vitamin A supplementation*.

3. What do we know about vitamin A supplementation?

Because vitamin A can be stored in the liver, high-dose vitamin A supplements can be given once every four to six months to prevent VAD in children. Supplementation maintains adequate vitamin A levels and ensures that immune functions are not damaged. Because excess vitamin A can occasionally produce side effects, high-dose vitamin A supplements should be given by trained workers or volunteers.

4. Should national immunization days (NIDs) be the only immunization contact to give vitamin A?

Adding vitamin A to NIDs is one of the quickest and least expensive ways of reaching a large number of children in high-risk age groups. But it is only part of the answer to solving VAD. Several countries have moved ahead and are already distributing vitamin A supplements to children with their *routine immunization*¹ programmes through fixed health facilities or through outreach strategies. Vitamin A distribution linked with NIDs can and should complement and strengthen these routine activities. This is important because in areas where VAD is a problem, children need vitamin A regularly every four to six months, and NIDs provide only one dose per year. Therefore NIDs-linked vitamin A distribution is only one part of an overall programme for maintaining adequate vitamin A in children.

To ensure that children at risk receive two doses of vitamin A each year, many countries have decided to organize a “Vitamin A/Micronutrient Day” or “Child Health Day” six months after their NIDs. Sometimes measles campaigns or extra NIDs can also provide an opportunity to give vitamin A if they occur four to six months after the NIDs.

5. Should women be given vitamin A supplements during NIDs?

Postpartum women should receive vitamin A supplements through routine health services where they can be appropriately screened, NOT during NIDs.

High doses of vitamin A cause damage to a developing fetus in the early stages of pregnancy. Therefore, caution should be exercised in providing women of reproductive age with high-dose vitamin A supplements. Within the first **6 weeks**² after delivering a child, the likelihood of a woman becoming pregnant again is extremely low, and it is therefore safe to give a single high-dose supplement during this period. This has been shown to improve the stores of vitamin A in the woman, increase vitamin A in her breast milk, and improve the vitamin A status of her infant through the first few months of life. However, because it is difficult to screen women carefully during NIDs, it is recommended to target only infants and children to receive a dose of vitamin A during immunization campaigns.

¹ The schedule for giving vitamin A with routine immunization services is different from NIDs.

² If a woman is breastfeeding the safe infertile period for giving vitamin A can be extended to within eight weeks of delivery.

6. What are the most common problems encountered in distributing vitamin A supplements during NIDs?

- No decision, or late **decision** by senior managers or Inter-Agency Coordinating Committee (ICC) to include vitamin A in NIDs. Lack of awareness/advocacy of the potential benefit of including vitamin A with NIDs.
- Failure to involve **nutrition colleagues** in planning. This results in missed opportunities to support and reinforce National VAD Control Programmes and benefit from much needed technical support (e.g. identification of at-risk populations, etc).
- Poor logistical **planning** - lack of adequate supply and distribution of vitamin A capsules, no scissors or nail cutters available, tally sheets not properly adapted, forgetting to include vitamin A in social mobilization activities/messages.
- Inadequate **training** of personnel on how to give correct dose of vitamin A, how to dispose of capsule, and how to record and calculate coverage. Not enough attention to supervision of vitamin A administration and recording (e.g. poorly designed tally sheets).

7. Who is the target group for vitamin A during NIDs?

The target group for vitamin A is slightly different from that for polio. In communities where VAD exists, all infants and children 6 to 59 months of age should be given vitamin A during NIDs. Infants under the age of six months should not receive it, nor should women.

8. When and how often should vitamin A be given during the NIDs?

Vitamin A should be given only **once** during one of the rounds of NIDs. Do **NOT** give vitamin A at both rounds (usually a month apart) of NIDs. It is usually recommended that vitamin A be given in the second round of the NIDs rather than the first round, so that the teams are more experienced with the functioning of the NIDs and are better able to manage the addition of vitamin A.

At the health post, vitamin A should be given **after** a child has received oral polio vaccine (OPV).

9. During NIDs, is it necessary to screen for previous doses of vitamin A?

To avoid delays, during NIDs the screening should be limited to asking the age of the child to ensure the correct dose is given. It is **NOT** necessary to screen for previous dose of vitamin A. The *minimum* interval between doses of vitamin A is one month.³

³ Exceptionally, the interval between doses is reduced for the treatment of measles or clinical VAD (i.e. xerophthalmia).

10. What is the correct dose of vitamin A to give during NIDs?

Vitamin A is measured in international units (IUs) and vitamin A capsules come in several different sizes (50 000 IU, 100 000 IU and 200 000 IU). It is **NOT** recommended to use 50 000 IU capsules during NIDs because having to open more than one capsule per child can be confusing and will slow down the health post.

The correct dose of vitamin A is age-specific. Children 6-11 months receive a half dose (100 000 IU), while older children receive a full dose (200 000 IU). When giving vitamin A, the capsules are cut and the drops of vitamin A squeezed into the child's mouth. The number of capsules and drops given depends on the age of the child and the size of the capsule that is being used.

Table 1: Recommended age-specific dose of vitamin A during NIDs

Age group	Dose to be given	Amount of vitamin A	
		If 100 000 IU capsules are used give:	If 200 000 IU capsules are used give:
Below 6 months	DO NOT GIVE	DO NOT GIVE	DO NOT GIVE
6-11 months	100 000 IU	all drops in one capsule	half of the drops in one capsule
12 - 59 months	200 000 IU	all drops in two capsules	all drops in one capsule

Remember: Do **NOT** give vitamin A supplements to any mother or women of reproductive age during NIDs because of the risks if pregnant and the difficulty of screening carefully during NIDs.

11. How to calculate the number of vitamin capsules and doses required?

The number of vitamin A capsules depends on the type of the capsule(s) used (100 000 IU, 200 000 IU, or both):

- a) If using **only 200 000 IU** capsules the calculation is easy, one capsule per child (6-59 months) plus 10% extra to avoid shortages:

Number of 200 000 IU capsules required =

$$(\text{Number of children 6-59 months}) \times 1.1 = (90\% \text{ of polio target group 0-59 months}) \times 1.1$$

- b) If using **only 100 000 IU** capsules, you will need two capsules per child over 12 months, and one capsule per child 6-11 months, plus 10% extra to avoid shortages.

Number of 100 000 IU capsules required =

$$[(\text{Number of children 6-11 months}) \times 1.1] + [(\text{No. children 12-59 months}) \times 2.2] =$$

$$(10\% \text{ of polio target group 0-59 months} \times 1.1) + (80\% \text{ of polio target group 0-59 months} \times 2.2)$$

- c) If using **both 100 000 IU and 200 000 IU** capsules, you will need one 100 000 IU capsule per child 6-11 months, and one 200 000 IU capsule per child over 12 months, plus 10% extra to avoid shortages.

Number of 100 000 capsules required =

$$(\text{Number of children 6-11 months}) \times 1.1 = (10\% \text{ of polio target group 0-59 months}) \times 1.1$$

Number of 200 000 capsules required =

$$(\text{No. of children 12-59 months}) \times 1.1 = (80\% \text{ of polio target group 0-59 months}) \times 1.1$$

12. How should vitamin A be administered and recorded?

Follow these steps (and also refer to the Job Aid in Appendix 9):

Step 1. Check that you know what dose of vitamin A to give to what age group. If you are using two sizes of capsules make sure you know which capsule contains 100 000 IU and which contains 200 000 IU.

Step 2. If you are using only 200 000 IU sized capsules you need to calculate the number of drops for a half-dose (100 000 IU). Open a few capsules (with scissors or nail clippers), squeeze out the contents and count the number of drops per capsule. Calculate the average number of drops, and divide by two for the number of drops for a half dose (100 000 IU).

Step 3. Check to see that you are well positioned at the post to allow you to do all the tasks associated with administration of vitamin A. Good positioning will minimize interruption to the flow of children through the post.

Step 4. As each child arrives, find out his/her age-group (below 6 months, 6-11 months or 12-59 months) and decide the correct dose for the age group (see Table 1). Use a method appropriate for the culture to determine the age of the child. This may simply be done by asking the caregiver or observing the child. A child who is walking is likely to be at least 12 months old.

Step 5. Using scissors, or nail clippers⁴, cut open the vitamin A capsule and squeeze out the drops into the child's mouth. If only a half dose is to be given to a child, squeeze out the required number of drops directly in the child's mouth and **discard** the rest (it is not worth trying to keep the opened half capsule for the next child because it will leak, become messy, and affect the accuracy of the dose). **Do NOT** ask children to swallow capsules. **Do NOT** give capsules to caregivers to take away.

Step 6. Discard all used vitamin A capsules in a plastic bag or container. At the end of the NIDs, all used capsules should be disposed of safely (buried or burned), to avoid children or animals accidentally ingesting the capsules.

Step 7. Put one mark on the tally sheet for each child given vitamin A (regardless of age or which dose was given). During NIDs, it is **NOT** necessary to record vitamin A on the child's immunization card as it would cause delays. It is recommended that OPV and vitamin A be recorded together on the same tally sheet (see Appendix 8 for examples of tally sheets combining OPV and vitamin A).

⁴ Caution: some countries have reported difficulties using nail clippers to open capsules. It is important to make sure the nail clippers are wide enough for the nipple of the capsule to fit and be snipped easily

13. Is vitamin A safe and will it interfere with polio vaccine?

When the correct dosage is given, vitamin A is safe and has no negative effect on seroconversion rates for OPV (or measles vaccine). Occasionally, some children may experience side-effects such as headache, loss of appetite, vomiting, or a bulging fontanel (in infants). These symptoms have been investigated by researchers and confirmed to be minor, harmless and transitory, and require no special treatment.

14. What does vitamin A cost, how should supplies be handled, how can supplies be obtained?

Vitamin A capsules cost about US \$0.02 cents each. The capsules should be kept dry and out of direct sunlight. They should NOT be frozen. Vitamin A supplements do NOT need a cold chain and do NOT need to be stored in a refrigerator or vaccine carrier. If the capsules have come directly from a cool place, they may need to be warmed to room temperature by leaving the container open for a short time before the immunization session - the gelatin coat of capsules can become quite hard when cold. Otherwise, they are robust and easy to handle and distribute. Both 100 000 IU and 200 000 IU capsules come in containers of 500 capsules which weigh 222 grams per pack. Vitamin A capsules can be obtained from UNICEF⁵. If required, vitamin A capsules can be repackaged into smaller units using ziplock plastic bags and distributed to each post.

A bottle of vitamin A capsules, if unopened, will keep its potency under good storage conditions for at least two years. However, once a bottle containing vitamin A capsules is opened, the capsules should be used within one year.

Storage of the 100 000 IU and 200 000 capsules (generally different colours) should be separate and clearly identified, so as not to mix up the two doses.

Vitamin A capsules and their container



⁵ Often vitamin A capsules are available from UNICEF free of charge, thanks to an in-kind grant by the Micronutrient Initiative and the Government of Canada.

15. Are there any special requirements for adding vitamin A to NIDs?

Each vaccination post will need an additional health worker or volunteer to give vitamin A (Appendix 10). Each post will need scissors or nail cutters to open the capsules (using teeth, pins or razor blades to open capsules is NOT recommended for obvious reasons). Each vaccination post needs a plastic bag or container to dispose of used vitamin A capsules. Social mobilization materials and messages (Appendix 7) and tally sheets need to be adapted to include vitamin A (see Appendix 8).

16. What are the additional budget costs for including vitamin A?

The cost of adding vitamin A should be calculated and included in the regular budget preparation process for NIDs. The main costs of adding vitamin A include:

Supplies/materials

- Vitamin A capsules
- Scissors to open capsules (1 pair per team/post)
- Revision or preparation of social mobilization materials and messages to include vitamin A (posters, T-shirts, radio/TV spots, etc)
- Design and printing of training materials and job aids
- Revision and printing of tally sheets to include vitamin A

Training and per diems

- Per diem or incentive, and travel costs, for additional vitamin A volunteers for a half-day training
- Per diem or incentive, and travel costs for additional vitamin A volunteers during one round of NIDs multiplied by the number of days

Evaluation and report writing

- Additional costs of including vitamin A in the evaluation of the NIDs and the preparation of the NIDs report

Appendix 1: Suggested planning schedule for vitamin A/NIDs

WHEN	WHAT	HOW	WHO
At least 8 months before NIDs	<ul style="list-style-type: none"> Decide on age groups for vitamin A supplementation Decide on geographical areas for vitamin A supplementation Calculate national vitamin A supplement needs (how many capsules and what dose) 	<ul style="list-style-type: none"> Include all children 6-59 months of age. Include all parts of the country unless it is very large, then include all regions with known or suspected VAD. Use proxy indicators (such as high IMR and U5MR, high measles case-fatality rates, etc) as criteria if vitamin A status is unknown and no survey has been done. Exclude those regions where vitamin A coverage (of two doses per year) is 80% or higher and has been achieved using other vitamin A activities. Decide on type of capsule(s) to use. To calculate number of capsules and doses required refer to page 5 of this document. Remember to add 10% extra to avoid shortages. 	Ministry of health/Nutrition and EPI managers, and Inter-Agency Coordinating Committee
6 to 8 months before NIDs	<ul style="list-style-type: none"> Include vitamin A in NIDs planning e.g. making task lists, schedules, preparing logisitcs, social mobilization, tally and report forms 	<ul style="list-style-type: none"> See the Appendices 3, 4, 5, 6 and 7. Also see the WHO Polio Eradication Field Guide <p>Note: Add one person per post for vitamin A</p>	National NIDs coordinator and coordinating committee
6 months before NIDs	<ul style="list-style-type: none"> Order vitamin A capsules, and scissors (if needed) 	<ul style="list-style-type: none"> See page 5 for calculation of capsules required See Appendix 3 to calculate scissors 	National, provincial and district coordinators and committees

Appendix 1 continued/...

Appendix 1: Suggested planning schedule for vitamin A/NIDs *(continued)*

WHEN	WHAT	HOW	WHO
4-6 months before NIDs	<ul style="list-style-type: none"> • Include vitamin A in district planning • Include vitamin A in NIDs field guide and plans for training • Include vitamin A in posters, radio/TV announcements, press articles • Design/print tally sheets to include vitamin A • Design/print supervisory checklist to include vitamin A 	<ul style="list-style-type: none"> • Use information in this Addendum • Use information in this Addendum • See Appendix 7 • See Appendix 8 • See Appendix 6 	National, provincial and district coordinators and committees
8 weeks before NIDs	<ul style="list-style-type: none"> • Include vitamin A in the training of provincial level staff 	<ul style="list-style-type: none"> • Use information in this Addendum 	National coordinating committee
6 weeks before NIDs	<ul style="list-style-type: none"> • Include vitamin A in the training of district level staff 	<ul style="list-style-type: none"> • Use information in this Addendum 	Trained provincial staff
4 weeks before NIDs	<ul style="list-style-type: none"> • Include vitamin A in training of the post coordinators • Transport vitamin A together with polio vaccine from central level to provinces 	<ul style="list-style-type: none"> • See Appendices 9 and 10 • Remind staff to store vitamin A away from direct sunlight, do NOT freeze 	Trained members of district staff National or provincial coordinating committees
3 weeks before NIDs	<ul style="list-style-type: none"> • Include vitamin A in the training of volunteers 	<ul style="list-style-type: none"> • See Appendices 9 and 10 	Post coordinators

Appendix 1 continued/...

Appendix 1: Suggested planning schedule for vitamin A/NIDs *(continued)*

WHEN	WHAT	HOW	WHO
1 week before NIDs	<ul style="list-style-type: none"> • If appropriate, transport vitamin A together with polio vaccine from provincial level to districts • Include vitamin A in supervisory visits and “spot checks” in selected areas 	<ul style="list-style-type: none"> • Remind staff to store vitamin A away from direct sunlight, do NOT freeze • See Appendix 6 	Coordinating committees, all levels
1-2 days before NIDs	<ul style="list-style-type: none"> • Transfer vitamin A with polio vaccine from district to immunization posts or give to vaccinating teams • Distribute job aids on vitamin A to immunization posts 	<ul style="list-style-type: none"> • Remind staff to store vitamin A away from direct sunlight, do NOT freeze <p>Note: Do not keep vitamin A capsules in the vaccine carriers along with vaccines</p> <ul style="list-style-type: none"> • See Job Aid in Appendix 9 	Provincial or district Committee
First week after NIDs	<ul style="list-style-type: none"> • Calculate district vitamin A coverage. Document and include vitamin A coverage in report and any evaluation exercises. Submit results to provincial level. 	<ul style="list-style-type: none"> • See Appendix 8 	District NIDs coordinator
Second week after NIDs	<ul style="list-style-type: none"> • Calculate provincial and national vitamin A coverage. Document and include vitamin A in official NIDs report and any evaluation exercises. 	<ul style="list-style-type: none"> • See Appendix 8 	Provincial and national NIDs coordinators
Month after NIDs	<ul style="list-style-type: none"> • Include vitamin A questions in any follow-up assessment of NIDs. Use to improve the next NIDs that include vitamin A. 		NIDs coordinators at all levels

Appendix 2:

Fifteen keys to planning successful NIDs: considerations for programme managers adding vitamin A

(See Chapter VI, page 20 of the *Field guide for supplementary activities aimed at achieving polio eradication, 1996 revision*)

1. **Ensure good collaboration with national Nutrition Programme:** VAD is a nutritional problem. Therefore, a programme of vitamin A supplementation delivered with immunization should be designed and implemented by the EPI and Nutrition staff together. The success of the programme will primarily depend on the quality of the collaboration between EPI and Nutrition.
2. **Ensure high-level commitment and consensus:** Discuss and agree to add vitamin A to NIDs if vitamin A deficiency is a public health problem, or if other indicators suggest it may be a problem. Appoint a vitamin A focal point for the Inter-Agency Coordinating Committee (ICC), in collaboration with Nutrition.
3. **Ensure adequate financial resources:** Include vitamin A capsules in the NIDs budget and secure financial support.
4. **Start planning in advance:** Each year include vitamin A in one round of NIDs only. If vitamin A is also being distributed through other campaigns or extra NIDs, try to schedule them at intervals of four to six months after or before the NIDs at which vitamin A will be distributed.
5. **Involve other sectors:** From the beginning involve nutrition authorities, UNICEF (supplier of vitamin A capsules), and non-governmental organizations (NGOs) who have previous experience with vitamin A distribution.
6. **Correctly calculate and characterize the target population:** Include all children from 6 to 59 months as the target group for vitamin A. Exclude those districts or regions that have a consistently high (80% or over) coverage with vitamin A supplements distribution every four to six months through other strategies or routine programmes. Make standard and consistent calculations *at all levels* to estimate target populations and vitamin A capsule requirements.
7. **Establish a structure for planning and designate responsibilities:** Inform NIDs coordinators and committees about the implications of adding vitamin A so they can plan accordingly.
8. **Develop a standard schedule (who, what, when, where):** This should also include all tasks related to the inclusion of vitamin A.

-
9. **Ensure good logistics:**
 - add one volunteer for vitamin A at each post
 - add sufficient vitamin A capsules for each child 6-59 months. To avoid shortages add 10% extra.
 - add one pair of scissors or nail cutter per vaccination post to open capsules
 - add one plastic bag to each post's supplies collect used vitamin A capsules
 - add vitamin A to task lists and logistics forms at all levels
 - deliver vitamin A capsules with vaccine to all levels
 10. **Ensure good social mobilization:** With the Nutrition Programme develop key messages on vitamin A and incorporate these messages into information, education and communication (IEC) materials and social mobilization activities.
 11. **If other antigens are included:** This will require a realistic assessment of what is feasible, as well as increased planning, social mobilization, training, supervision and logistics.
 12. **Make special efforts to reach children of "special populations"** (including hard to reach and high risk groups such as refugees and displaced populations): Give vitamin A to all children 6-59 months in special populations at risk of VAD. Make sure that they understand the benefits of vitamin A.
 13. **Supervise at each level (by cascade):**
 - supervisors should use a checklist that includes vitamin A
 - during visits supervisors should carry extra supplies of vitamin A capsules and scissors or nail cutters to open capsules.
 14. **Ensure efficiency and good services at vaccination post:**
 - give vitamin A after giving OPV
 - use one simple tally sheet that includes both OPV and vitamin A
 - organize flow of people at immunization post so that adding vitamin A to NIDs does not increase waiting time excessively.
 15. **Plan to evaluate and use findings for future NIDs:** Include calculations of vitamin A coverage in all NIDs evaluations, document vitamin A experiences (both positive and negative) in NIDs reports and evaluations.

Appendix 3: Logistics spreadsheet for central level

(Example to be locally adapted.

See *Field guide for supplementary activities aimed at achieving polio eradication, 1996 revision, page 97 Appendix 140)*

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Province	Provincial NIDs coordi- nator	Districts	Total population	Target population (<5 yrs)	Posts E/200	OPV doses required E x 2 x 1.3	OPV vials (2 rounds) G/20	Personnel required F x 3 or 4 (1 extra for vitamin A)	Cold chain space G/1000	Vaccine carriers F x 1	Ice needed for posts F x 1 x days	Vitamin A target population E x 0.9	Vitamin A 200 000 IU capsules M x 1.1*	Scissors or nail clippers F x 1 (one pair/post)	Transport to collect supplies for province
(Name)	(Name)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Number)	(Litres)	(Number)	(Kilos)	(Number)	(Number)	(Number)	(Mode)
TOTAL															

* If using 100 000 IU capsules, please see page 5 of this document for calculation instructions.

Appendix 4: Logistics spreadsheet for provincial level

(Example to be locally adapted.)

See Field guide for supplementary activities aimed at achieving polio eradication, 1996 revision, page 98-99, Appendix 14 p)

A	B	C	D	E	F	G	H	H(a)	H(b)	I	J	K
District	District	Total	Target	Posts		OPV	OPV	Vitamin A	Vitamin A	Post Workers		
	NIDs coordinator	Population	Population (<5 years)	Estimated D/200	Actual	Doses required (2 rounds) D x 2 x 1.3	Vials required	Target pop. D x 0.9	200 000 IU capsules H(a) x 1.1*	Required F x 3 or 4 1 extra for Vit. A	Identified	needed I - J
(name)	(name)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)	(number)
TOTAL												

* If using 100 000 IU capsules see page 5 of this document for instructions on the calculation.

Appendix 4: Logistics spreadsheet for provincial level (continued)

[illegible]

(Example to be locally adapted.

[illegible]

Appendix 6: Supervisory checklist for distributing vitamin A at NIDs

*(See Field guide for supplementary activities aimed at achieving polio eradication,
1996 revision, page 112 Appendix 17e)*

Add the following to the NIDs Supervisory Checklist:

	Yes	No	Comments
LOGISTICS			
Have sufficient vitamin A capsules and scissors been requested?			
Are there sufficient stocks of vitamin A capsules?			
Are vitamin A capsules stored away from direct sunlight?			
Is a plastic bag or container available to safely dispose of used capsules?			
Has information on vitamin A been provided?			
Has this level been trained to give vitamin A?			
SOCIAL MOBILIZATION			
Do activities for special populations include giving messages on vitamin A?			
Do posters, brochures, radio and other promotional materials/activities include messages on vitamin A?			
PRACTICE			
Observe five health workers or volunteers giving vitamin A:			
i) Do all five give the correct doses?	yes	no	
ii) Do all five open, administer, and dispose of capsules correctly?	yes	no	
iii) Does the recorder correctly record vitamin A on the tally sheet?	yes	no	

Appendix 7: Information, education and communication (IEC) on Vitamin A

(See Field guide for *supplementary activities aimed at achieving polio eradication, 1996 Revision*, page 121, Appendix 18b)

The following items on vitamin A should be included in a NIDs guide for broadcasters, handouts, posters, and any other media channels or informal/traditional communication strategies used by the NIDs organisers:

- A simple explanation of vitamin A deficiency.
- Current status of vitamin A deficiency in the country.
- The information that NIDs will include the distribution of vitamin A to children.
- The key messages on vitamin A at NIDs are as follows:
 - Insufficient vitamin A reduces a child's ability to fight common childhood infections such as diarrhea and measles. Vitamin A also prevents blindness.
 - Vitamin A deficiency can be easily avoided by giving vitamin A drops by mouth.
 - All children 6-59 months of age will get vitamin A drops at a nearby health post, on [add date of round when vitamin A will be distributed].
 - All children 6-59 months of age need vitamin A every four to six months. Four to six months after getting vitamin A at NIDs children should obtain their next dose of vitamin A at health centers or from campaigns or outreach workers.

Example of IEC message combining polio and vitamin A (Zambia)



Appendix 8:

Using tally sheets to calculate vitamin A coverage

(See Field guide for *supplementary activities aimed at achieving polio eradication, 1996 Revision*, page 129 Appendix 19a)

Calculate vitamin A coverage for the entire target group 6-59 months who received vitamin A. **Note:** It is **NOT** necessary to calculate and report vitamin A coverage by the two age-specific dosage groups. The important thing is to know and report the **total** number of children who received vitamin A.

Vitamin A coverage 6-59 months:

$$= \frac{\text{Number of children 6-59 months old given vitamin A (from Tally Sheets)}}{\text{Total number of infants 6-59 months old in the target area}} \times 100$$

Note: If you do not have reliable census data, assume that 90% of the OPV target population is equivalent to the 6-59 month old vitamin A target population⁶.

An example of a post tally sheet for recording vitamin A doses given with OPV at NIDs is provided on the next page and can be adapted locally.

An example of a summary tally sheet is also provided on the next page and can also be adapted to suit local needs.

⁶ For polio target group estimations, 17% of the total population is under five years of age. Of this, 90% are 6-59 months (10% are under six months of age).

Example of tally sheet for NIDS including vitamin A

Region: _____

Date: _____

District: _____

Type of team: ☐ Fixed post

Village/Town/Subdistrict: _____

☐ Outreach

Team Number: _____

☐ Mobile

0 to 5 months Polio only (No Vitamin A)	6-11 months Polio + Vitamin A (100 0000 IU Vitamin A)	1year - under 5 years Polio + Vitamin A (200 000 IU Vitamin A)			Over 5 years
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 50 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 100 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 150 0000000000</div> <div style="border: 1px solid black; padding: 5px;">0000000000 0000000000 0000000000 0000000000 200 0000000000</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 50 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 100 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 150 0000000000</div> <div style="border: 1px solid black; padding: 5px;">0000000000 0000000000 0000000000 0000000000 200 0000000000</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 50 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 100 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 150 0000000000</div> <div style="border: 1px solid black; padding: 5px;">0000000000 0000000000 0000000000 0000000000 200 0000000000</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 50 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 100 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 150 0000000000</div> <div style="border: 1px solid black; padding: 5px;">0000000000 0000000000 0000000000 0000000000 200 0000000000</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 50 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 100 0000000000</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">0000000000 0000000000 0000000000 0000000000 150 0000000000</div> <div style="border: 1px solid black; padding: 5px;">0000000000 0000000000 0000000000 0000000000 200 0000000000</div>	
Total _____	Total _____	Total _____			Total _____

Reminder: How to interpret the vaccine vial monitor

Good



Good



Do not use



Do not use



OPV vials received: _____

OPV vials used: _____

Example of district/region summary tally form including vitamin A

Team/ District	Number of OPV vials received	Number of unopened OPV vials returned		Number of OPV vials used	Number of OPV doses given				Number of vitamin A doses given		
		VVM Good	VVM Bad		0 - 5 months	6 - 11 months	1 - 4 years	≥ 5 years	6 - 11 months	1 - 4 years	≥ 5 years
1.											
2.											
3.											
4.											
5.											
....											
Total											

Summary:

Target OPV population 0-59 months =

Target vitamin A population 6-59 months =

OPV wastage = $1 - \frac{(\text{Total number of OPV doses given})}{(\text{number of vials used} \times 20)} \times 100$

Total polio < 1 year =

Total polio 1- 4 years =

Total polio 0-59 months =

Total polio ≥ 5 years =

Total Vitamin A 6-59 months =

Appendix 9: Training and job aids for NIDs post staff

Training components			
Personnel	Learning objectives	Teaching method	Tools, aids
Staff or volunteers who administer vitamin A	<ul style="list-style-type: none"> • Know the importance of vitamin A • Know recommended doses for each age group and the number of capsules and drops to give each age group. • Recognize the type of capsules of vitamin A (100 000 IU or 200 000 IU) available for distribution • Verify age group (less than 6 months, 6–11 months, and 12–59 months) • Keep capsules out of direct sunlight • Cut open a capsule and squeeze the contents into a child's mouth • Mark a tally sheet for each child dosed • Dispose of used capsule in plastic bag or container (burn or bury later) 	<ul style="list-style-type: none"> • Present and discuss the recommended doses for each age group • Practice age screening • Practice opening capsules and administering drops • Practice safe disposal of used capsule • Practice recording on tally sheets 	<ul style="list-style-type: none"> • Bottles of capsules, scissors or nail cutters • Tally sheets • Plastic bag or container • Job aid (on next page) with recommended doses for each age group, and illustrations of how to cut open a capsule and count the number of drops
Supervisor	Above, plus: <ul style="list-style-type: none"> – Know side effects/ safety, effectiveness of vitamin A capsules – Work with community leaders – Know how to record/ add doses using tally sheets, and calculate vitamin A coverage 	Same as above, plus present information and discuss about side effects.	Same as above

Job aid

(distribute to persons giving vitamin A)

Giving vitamin A at national immunization days (NIDs)

Why?

- Lack of vitamin A damages the ability to fight infections and causes blindness.

What?

- Give correct dose of vitamin A to all children 6-59 month of age as shown below:

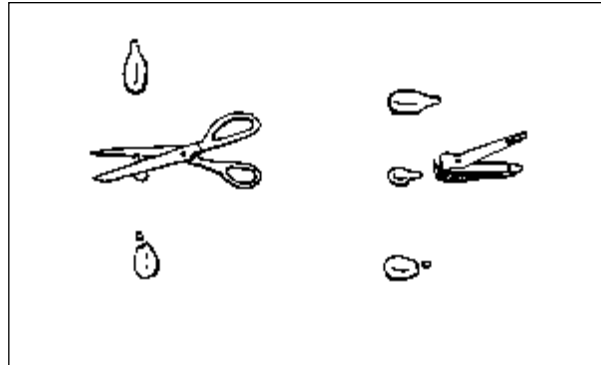
Age	Amount of Vitamin A	
	If capsules of 100 000 IU are used	If capsules of 200 000 IU are used
Below 6 months	DO NOT GIVE	DO NOT GIVE
6 to 11 months	1 capsule	½ the drops in one capsule
12 to 59 months	2 capsules	1 capsule

How?

- Check the child's age and decide what dose of vitamin A should be given.
- Cut open the narrow end of each capsule with scissors or a nail cutter and squeeze the correct amount of vitamin A into the child's mouth. Do NOT ask a child to swallow the capsule. Do NOT give the capsule to the mother to be given later.
- If only a half dose is to be given to a child, open a capsule and give half the number of drops. Throw away the half used capsule – it is too messy to try and use again. [To calculate half the number of drops, before starting distribution, open a few capsules and count the total number of drops per capsule. Estimate the average number of drops per capsule and use half that number.]
- Place one tally mark on the tally sheet for each child given a dose of vitamin A. Do NOT record the number of capsules or the age of the child.
- Place used capsule in a plastic bag or container. To avoid accidental ingestion by children or animals used capsules should be safely disposed by burying or burning.

Vitamin A illustrations

How to open capsules



Administering drops from a capsule



Appendix 10: Illustration of client flow at NIDs posts with vitamin A

